

FIG. 1

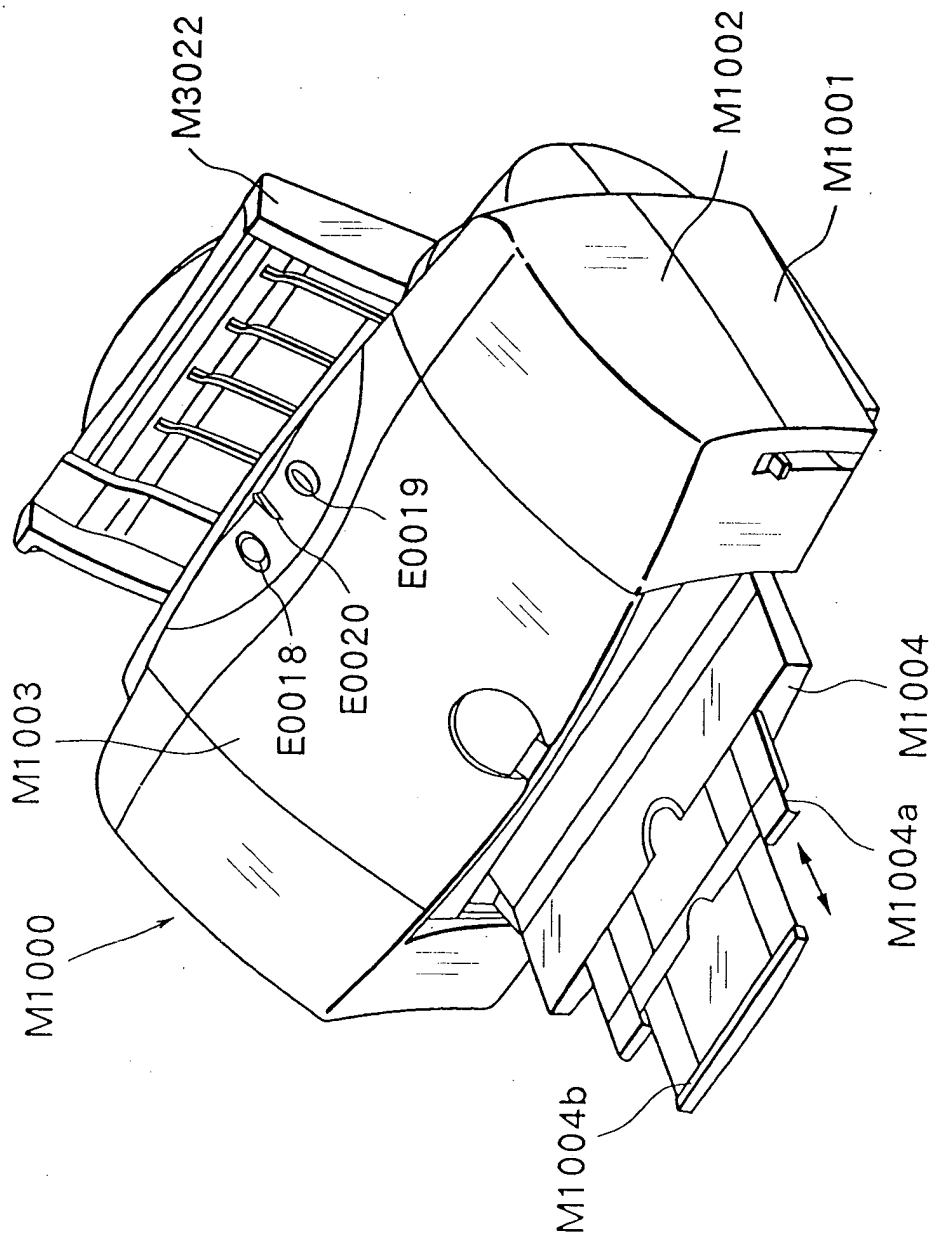


FIG. 3

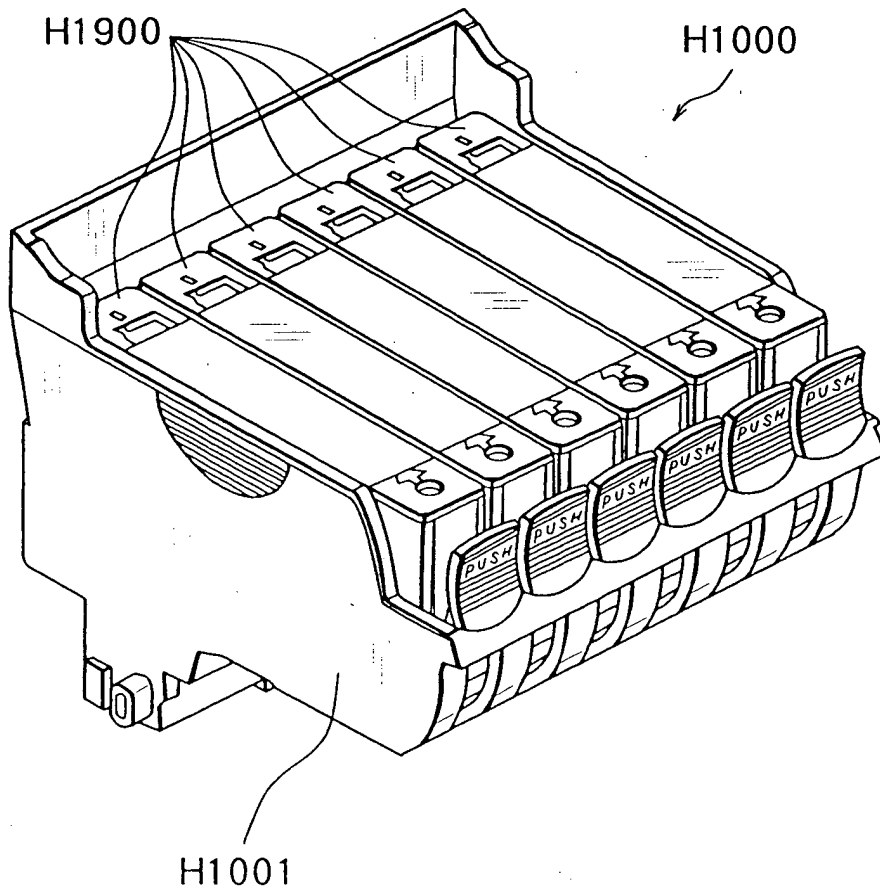


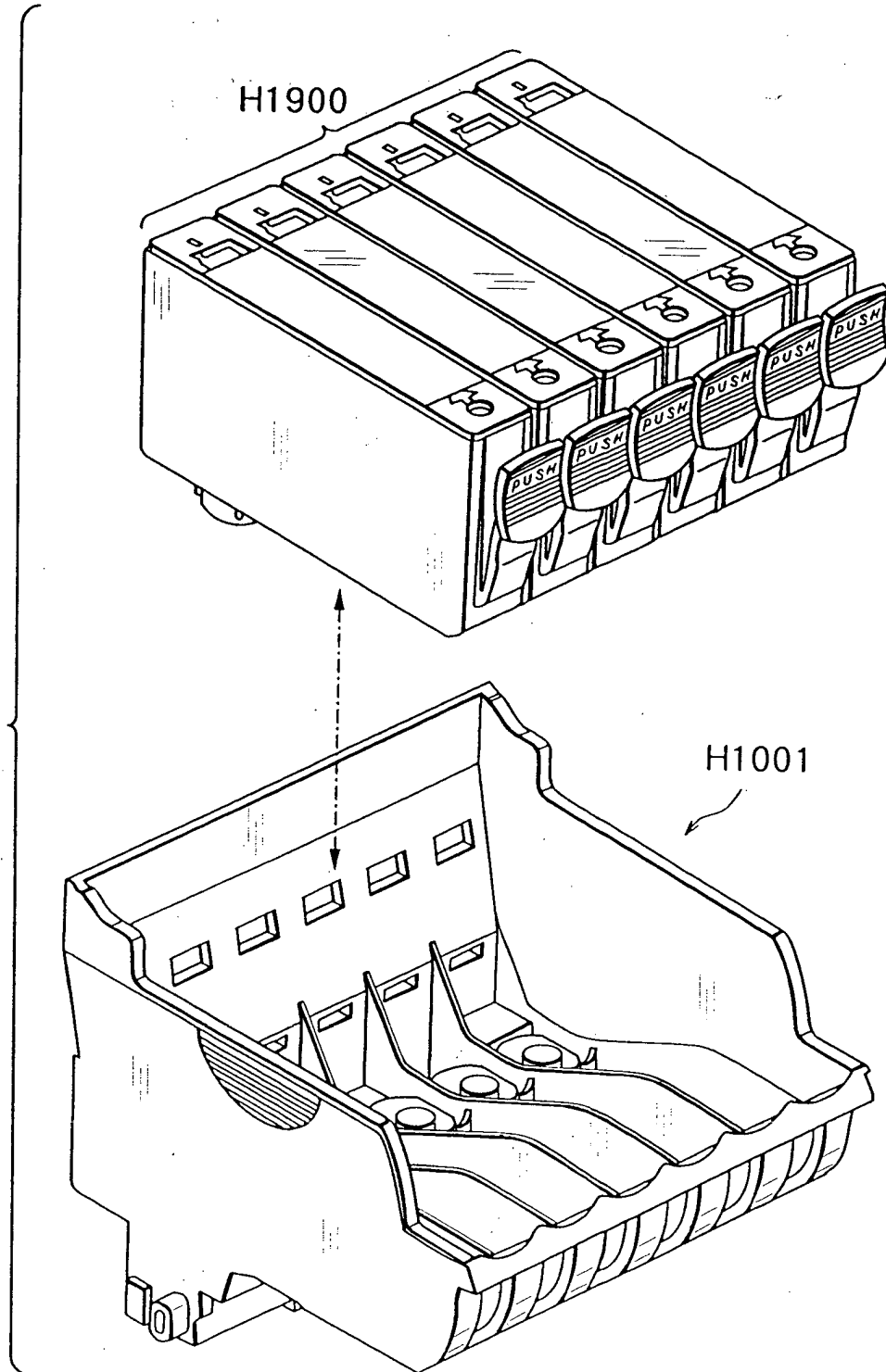
FIG. 4

FIG. 5

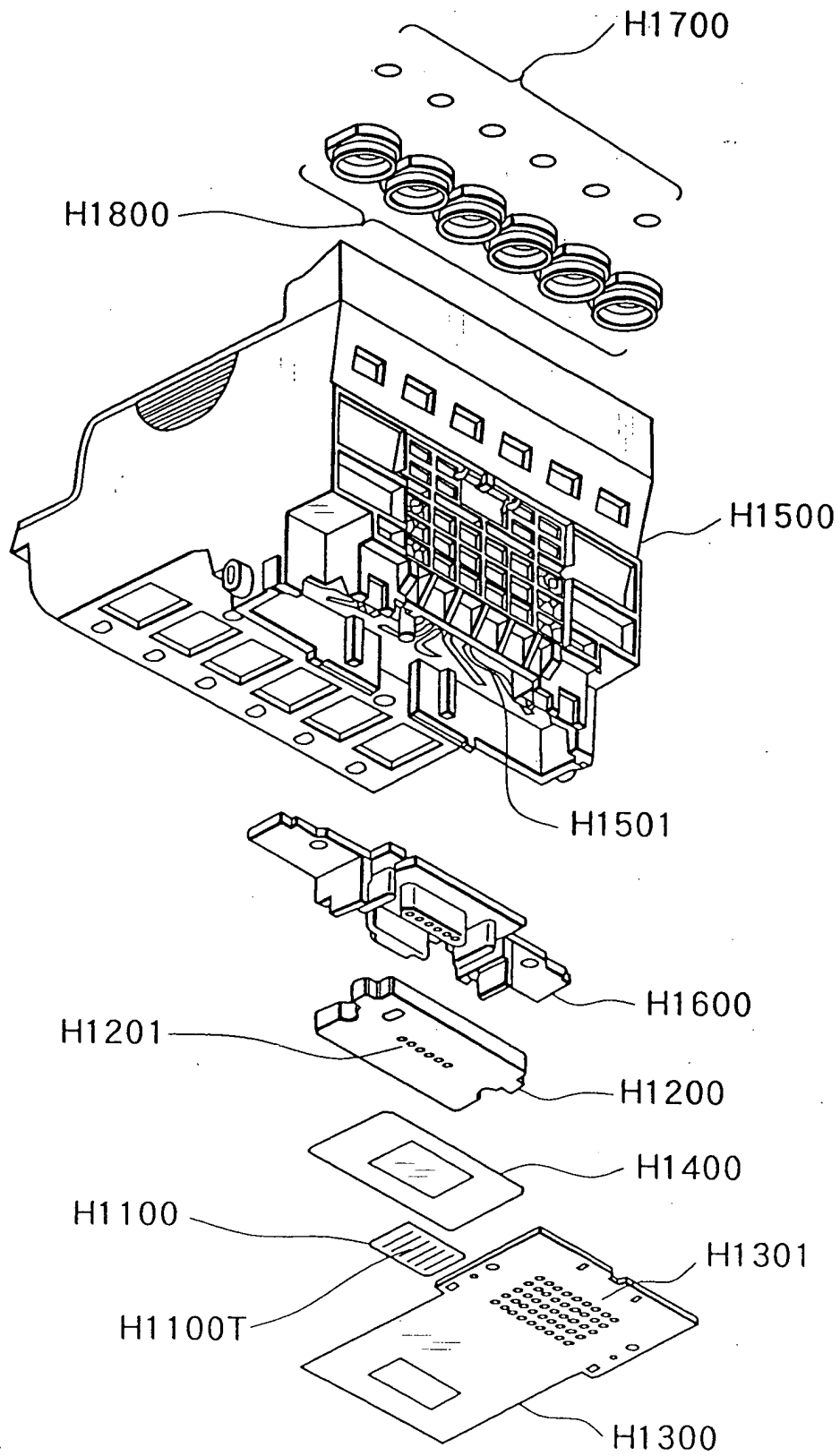


FIG. 6A

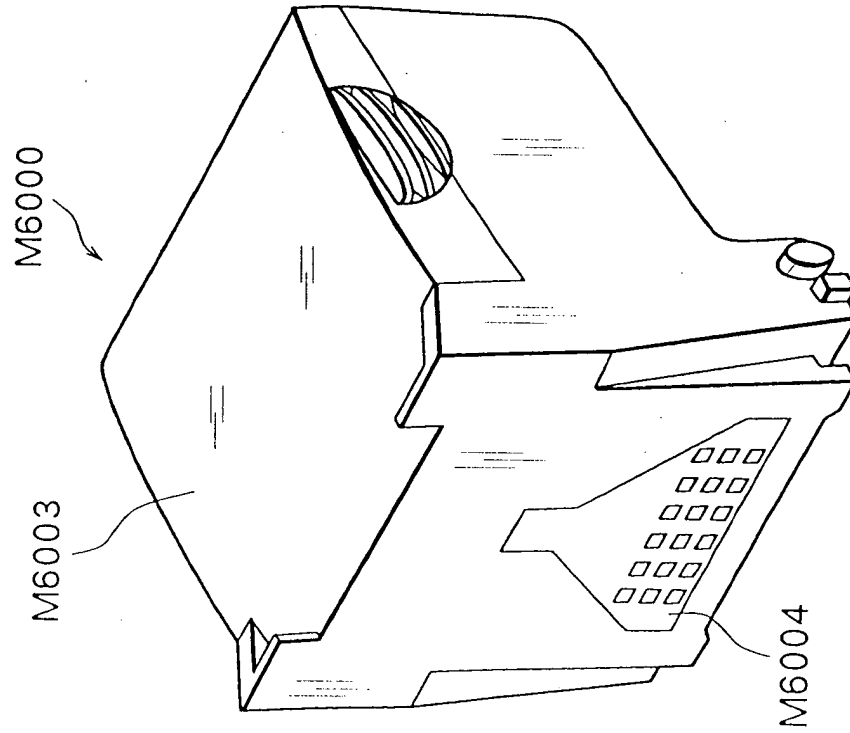


FIG. 6B

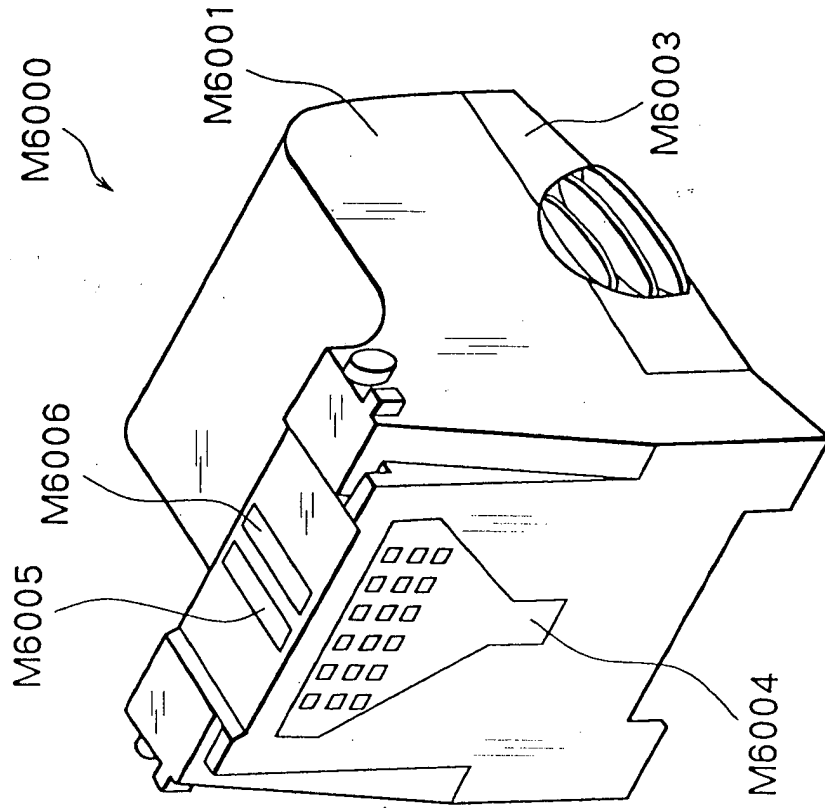


FIG. 7

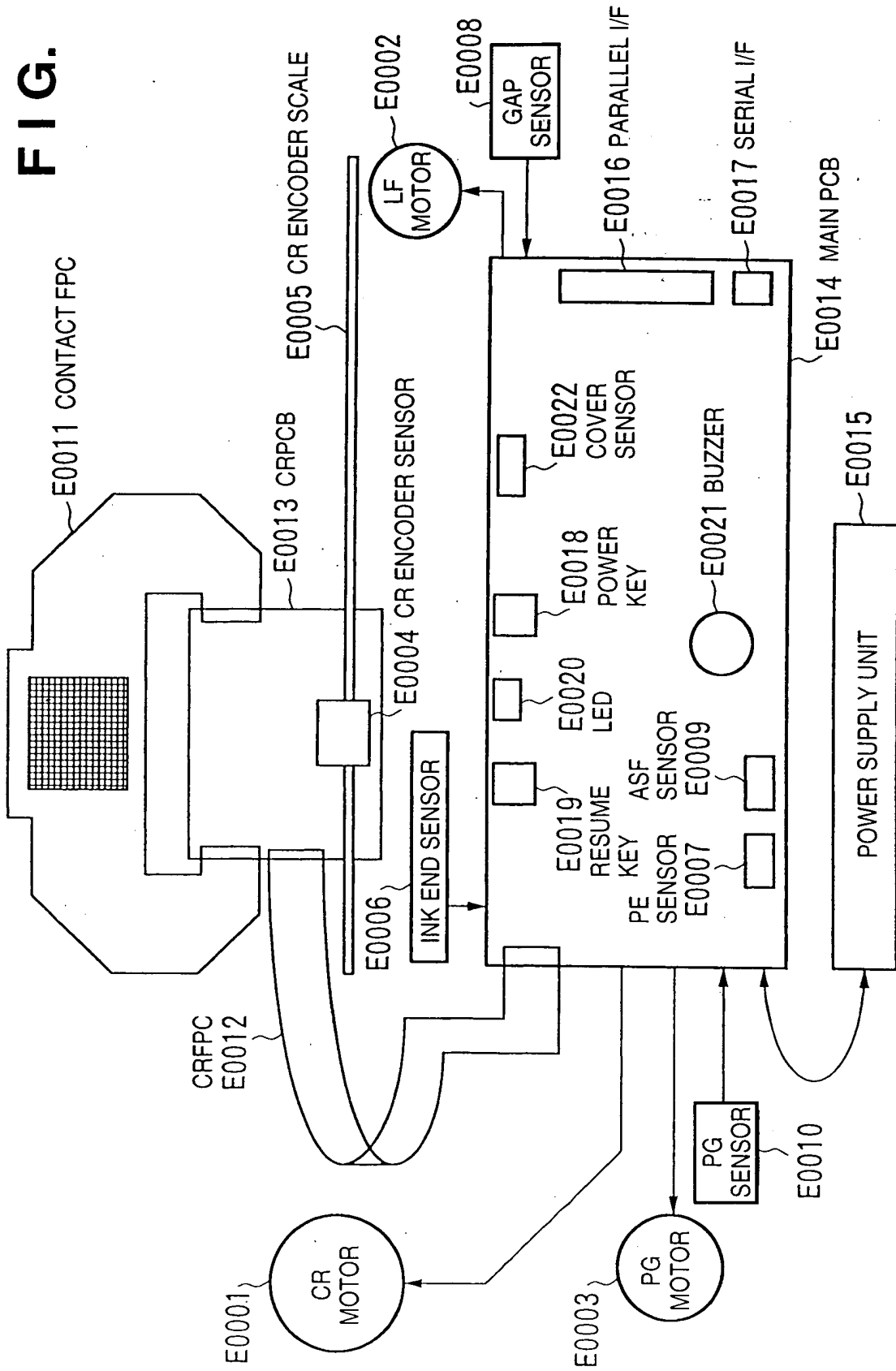
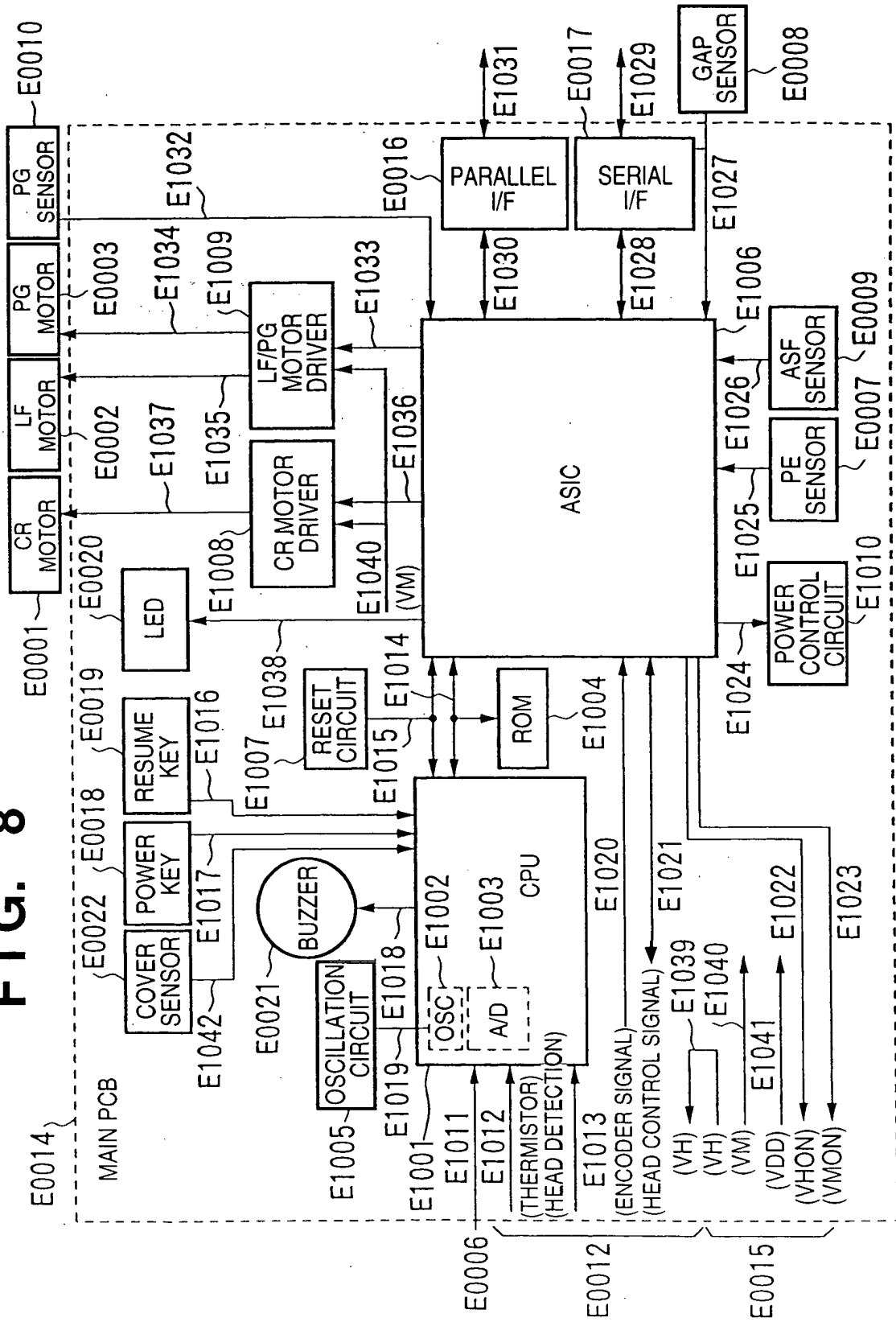


FIG. 8



9
5
1
F

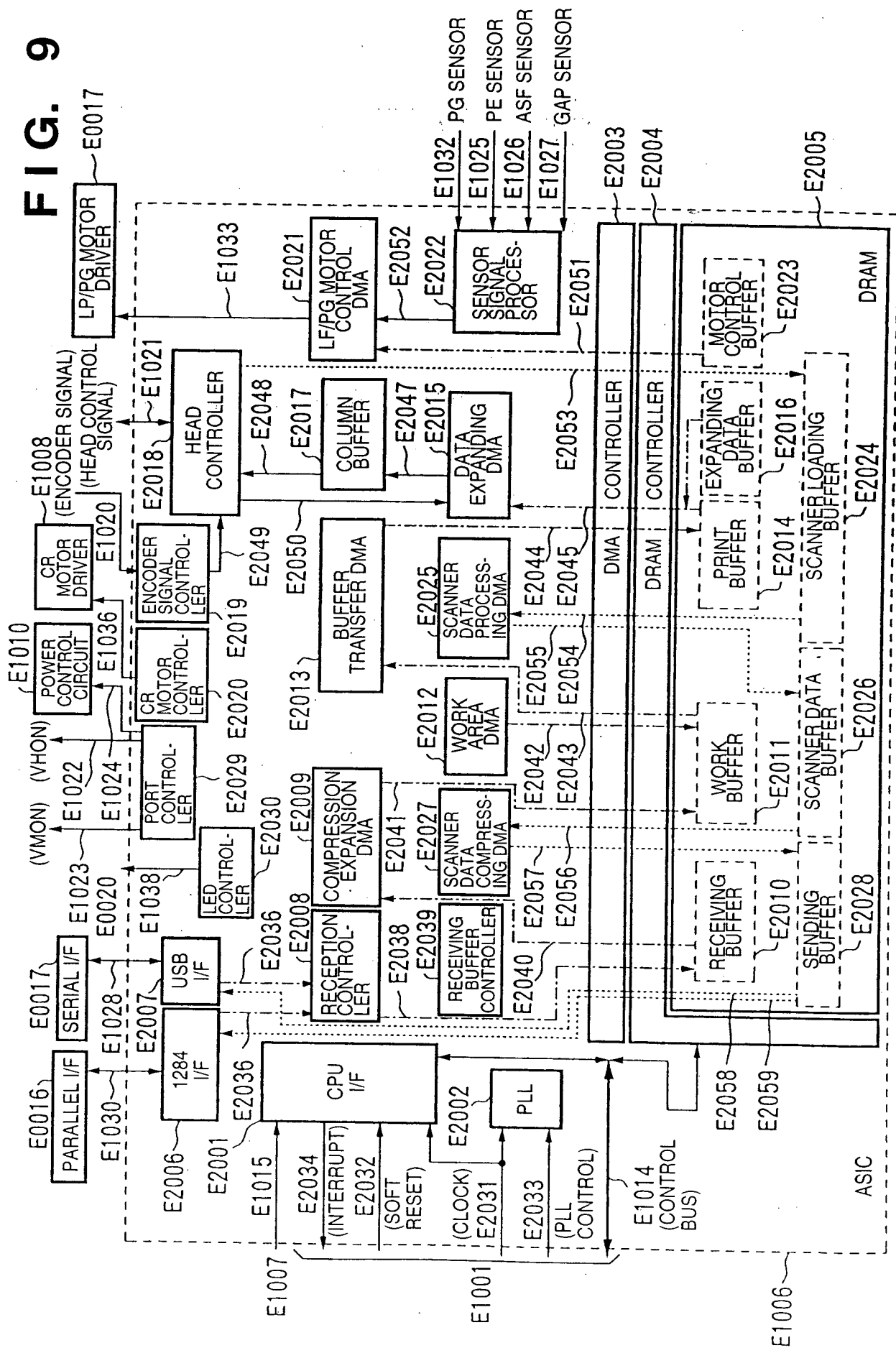


FIG. 10

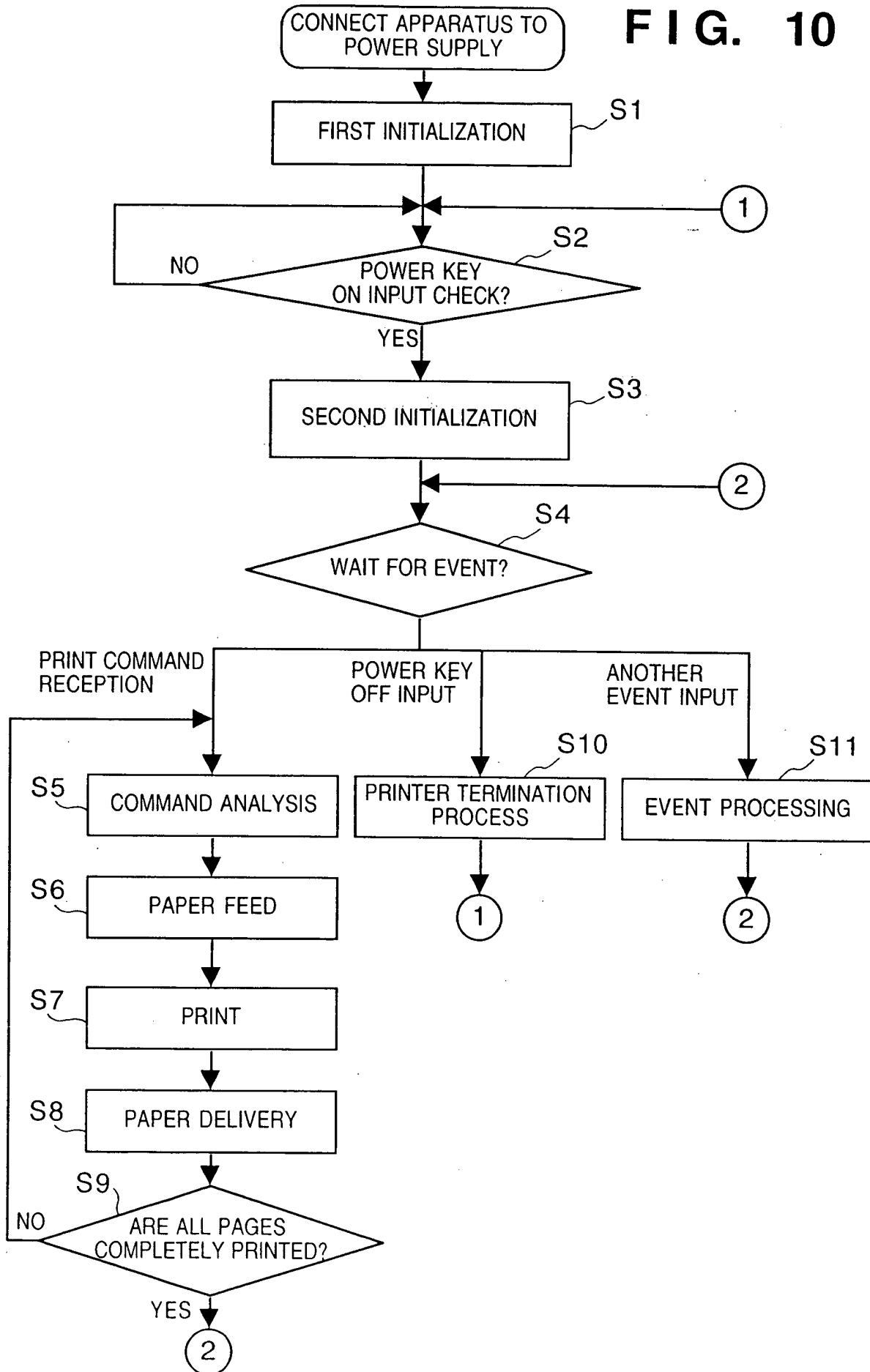
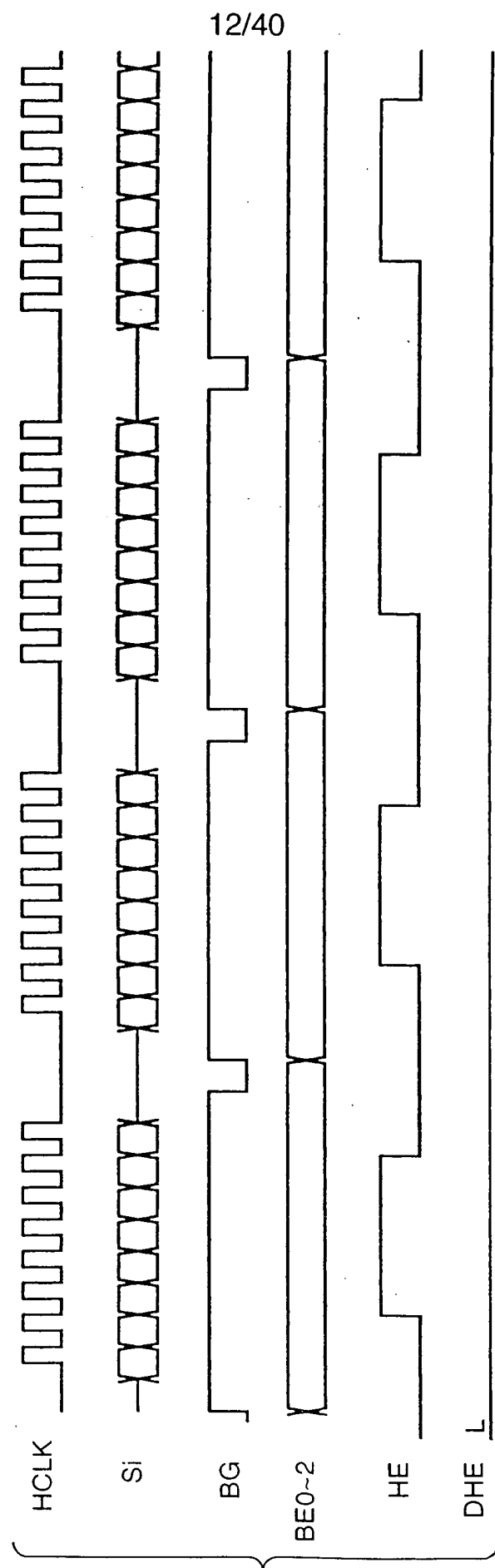


FIG. 12



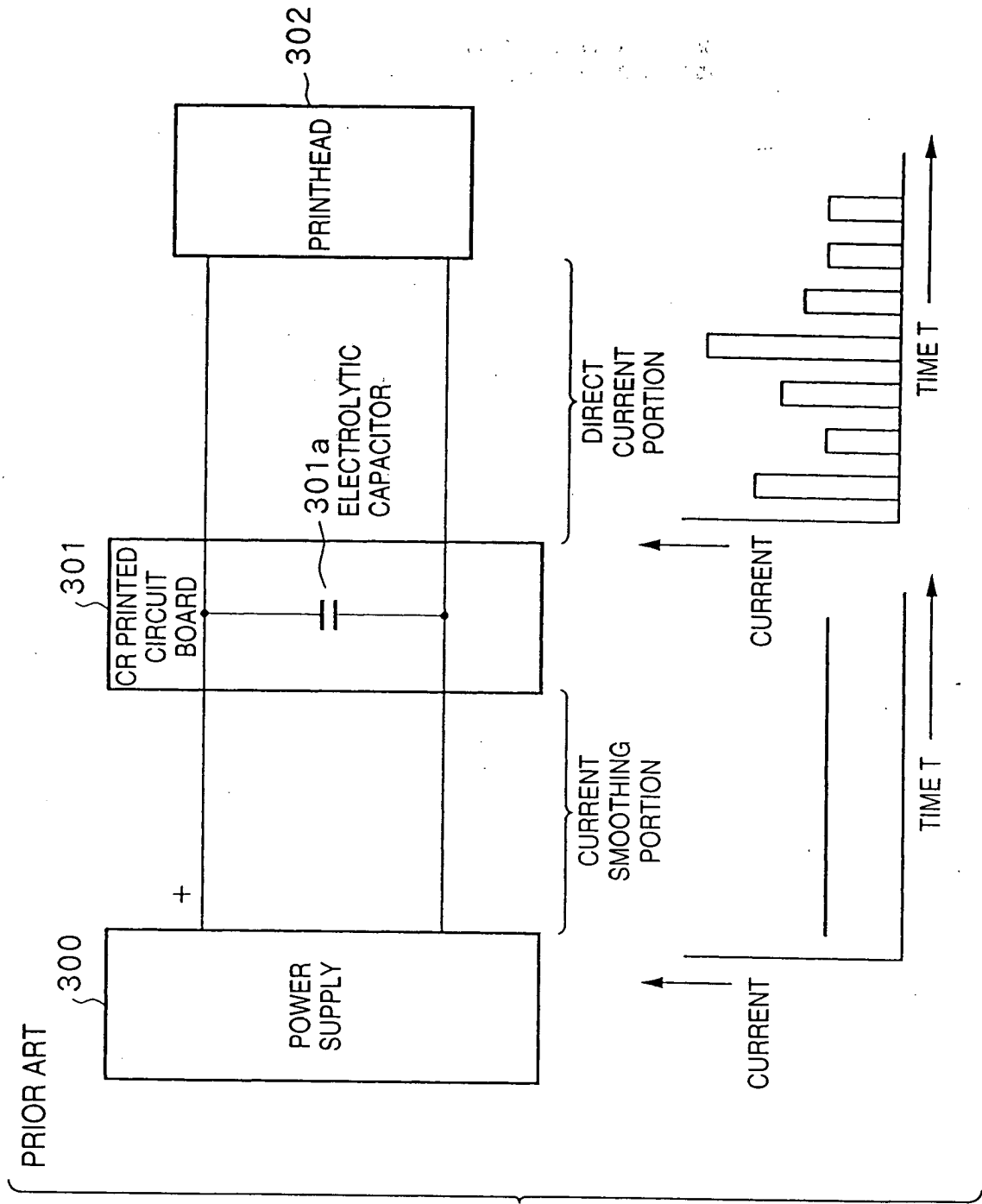
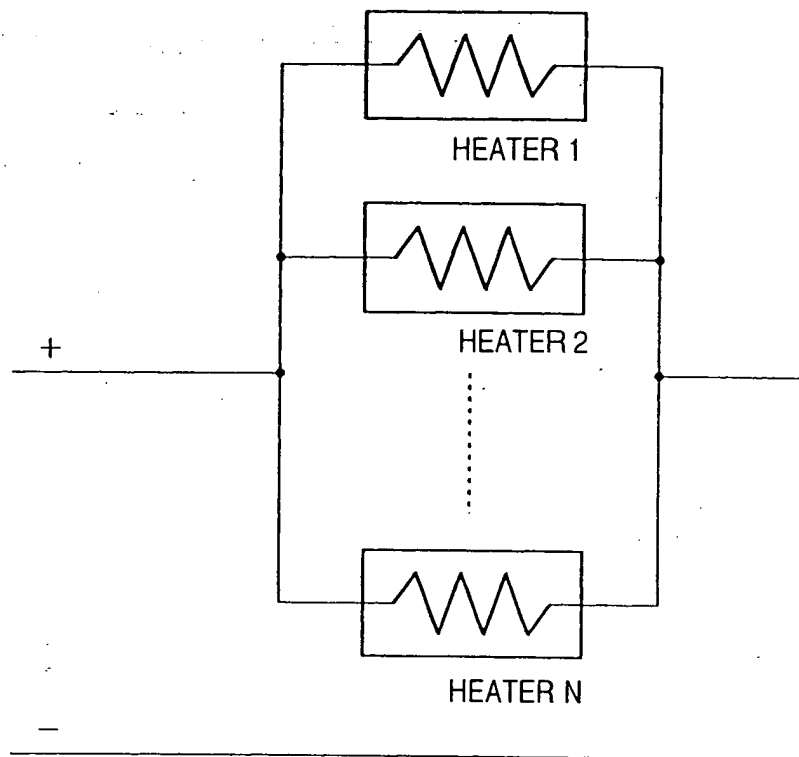


FIG. 13

[illegible]

THE NUMBER OF SIMULTANEOUS INK DISCHARGING NOZZLES

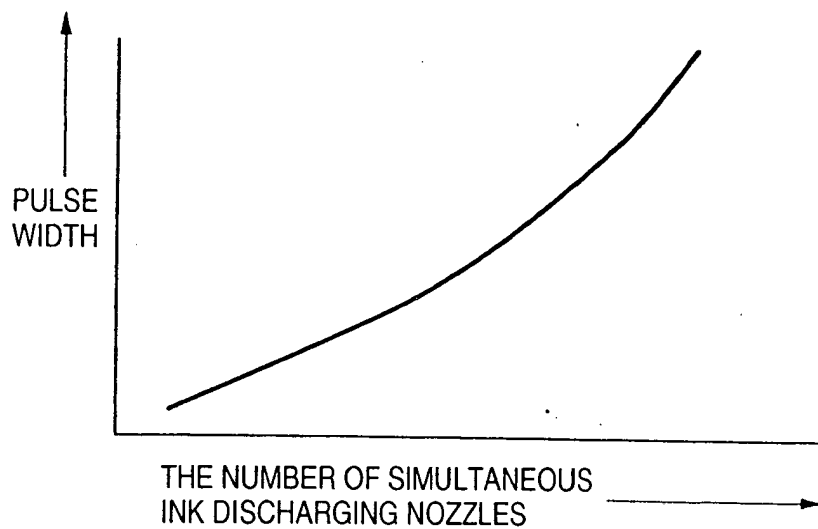


FIG. 16

HEATER RANK	TrON RANK	TEMPERATURE RANK	DRIVING PULSE WIDTH
1	1	~20°C	1.5
		~30°C	1.4
		~40°C	1.3
		~50°C	1.2
		50°C OR MORE	1.1
	2	~20°C	1.6
		~30°C	1.5
		~40°C	1.4
⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮
8	8	~20°C	2.9
		~30°C	2.8
		~40°C	2.7
		~50°C	2.6
		50°C OR MORE	2.4

FIG. 17

HEATER RANK	TrON RANK	TEMPERATURE RANK	THE NUMBER OF SIMULTANEOUS INK DISCHARGING NOZZLES			
			0 ~ 7	~ 15	~ 23	~ 31
1	1	~20℃	1.2	1.3	1.4	1.5
		~30℃	1.1	1.2	1.3	1.4
		~40℃	1	1.1	1.2	1.3
		~50℃	0.9	1	1.1	1.2
		50℃ OR MORE	0.8	0.9	1	1.1
	2	~20℃	1.3	1.4	1.5	1.6
		~30℃	1.2	1.3	1.4	1.5
		~40℃	1.1	1.2	1.3	1.4
⋮	⋮	⋮	⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮	⋮	⋮	⋮
8	8	~20℃	2.2	2.4	2.6	2.9
		~30℃	2.2	2.4	2.6	2.8
		~40℃	2.2	2.3	2.5	2.7
		~50℃	2	2.2	2.3	2.6
		50℃ OR MORE	1.9	2.1	2.2	2.4

8×8×5=320

FIG. 18

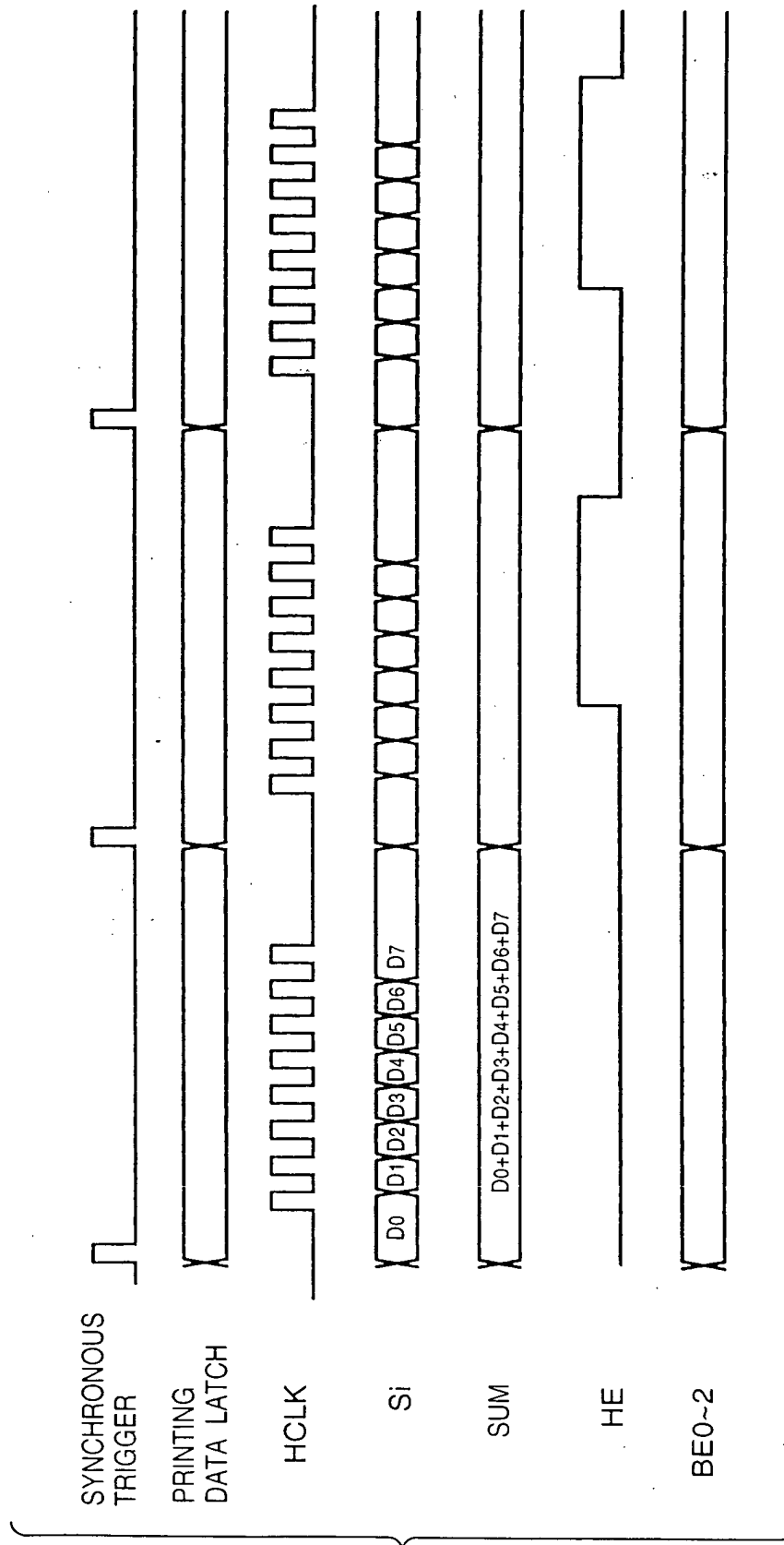
HEATER RANK	TrON RANK	TEMPERATURE RANK	DRIVING PULSE No.
1	1	~20℃	5
		~30℃	4
		~40℃	3
		~50℃	2
		50℃ OR MORE	1
	2	~20℃	6
		~30℃	5
		~40℃	4
:	:	:	:
:	:	:	:
:	:	:	:
8	8	~20℃	16
		~30℃	15
		~40℃	14
		~50℃	13
		50℃ OR MORE	12

$$8 \times 8 \times 2 = 128$$

FIG. 20

DRIVING PULSE No.	THE NUMBER OF SIMULTANEOUS INK DISCHARGING NOZZLES			
	0~7	~15	~23	~32
1	0	0.1	0.2	0.3
2	0	0.1	0.2	0.3
3	0	0.1	0.2	0.3
4	0	0.1	0.2	0.3
5	0	0.1	0.2	0.4
6	0	0.1	0.3	0.4
7	0	0.1	0.3	0.4
8	0	0.2	0.3	0.4
9	0	0.1	0.3	0.5
10	0	0.1	0.3	0.5
11	0	0.2	0.4	0.5
12	0	0.2	0.3	0.5
13	0	0.2	0.3	0.6
14	0	0.2	0.4	0.6
15	0	0.2	0.4	0.6
16	0	0.2	0.4	0.7

FIG. 22



F | G.

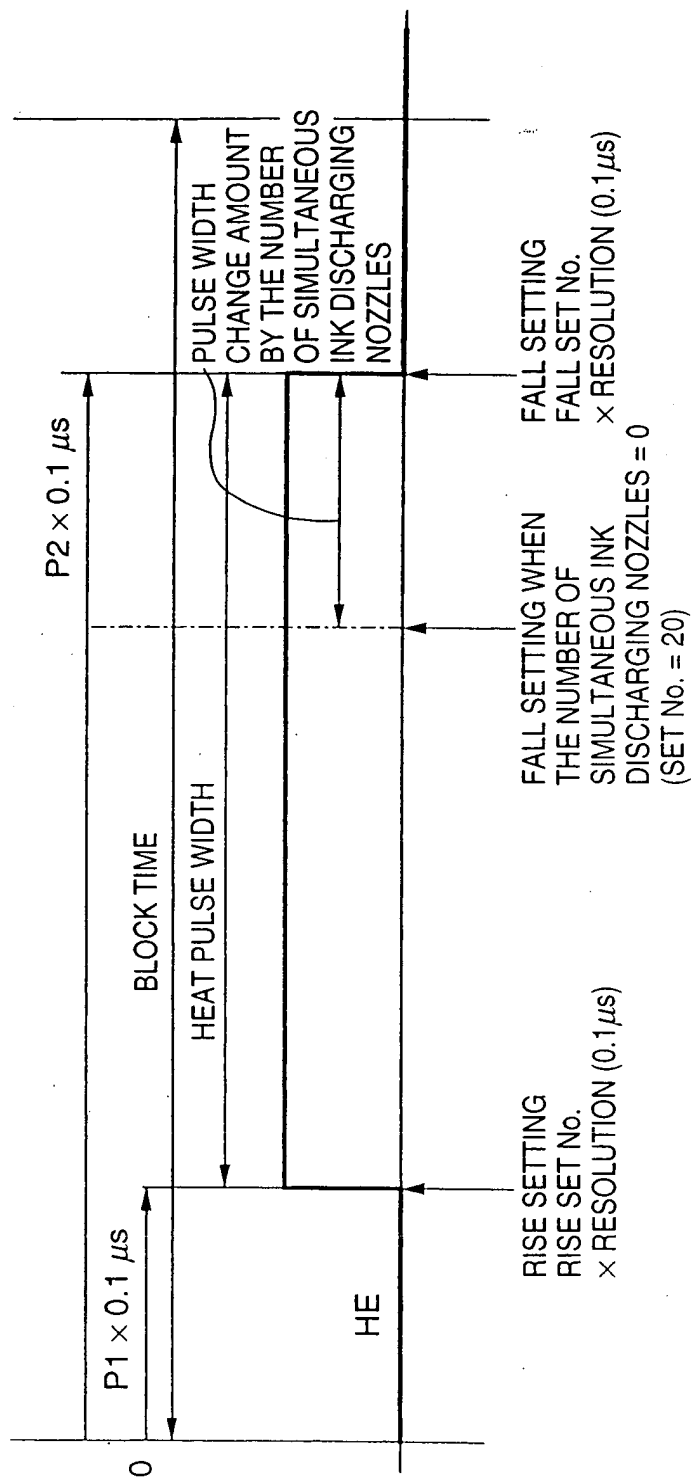


FIG. 24

HEAD ROM SET No. — PULSE WIDTH (AT 20 ~ 30℃)	
HEAD ROM SET No.	PULSE WIDTH
1	0.6
2	0.7
3	0.8
4	0.9
⋮	⋮
⋮	⋮
⋮	⋮
⋮	⋮

FIG. 25

HEAD ROM SET No. — DRIVING PULSE No. CORRESPONDENCE TABLE

HEAD ROM SET No.	TEMPERATURE RANK				
	~20℃	~30℃	~40℃	~50℃	~50℃ OR MORE
4	5	4	3	2	1
5	6	5	4	3	2
6	7	6	5	4	3
7	8	7	7	5	4
:	:	:	:	:	:
:	:	:	:	:	:
:	:	:	:	:	:
:	:	:	:	:	:

↑ NUMBER IS DRIVING PULSE No.

FIG. 26

DRIVING PULSE No. — P1 SET VALUE

DRIVING PULSE No.	P1	PULSE WIDTH
1	14	0.6
2	13	0.7
3	12	0.8
4	11	0.9
⋮	⋮	⋮
⋮	⋮	⋮
⋮	⋮	⋮
⋮	⋮	⋮

FIG. 27

DRIVING PULSE No. — SIMULTANEOUS INK DISCHARGING PULSE No.

DRIVING PULSE No.	THE NUMBER OF SIMULTANEOUS INK DISCHARGING NOZZLES			
	0~7	~15	~23	~32
1	0	3	6	9
2	0	3	6	9
3	0	3	7	9
4	0	4	7	10
⋮	⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮	⋮

↑ NUMBER IS SIMULTANEOUS DISCHARGING PULSE No.

FIG. 29

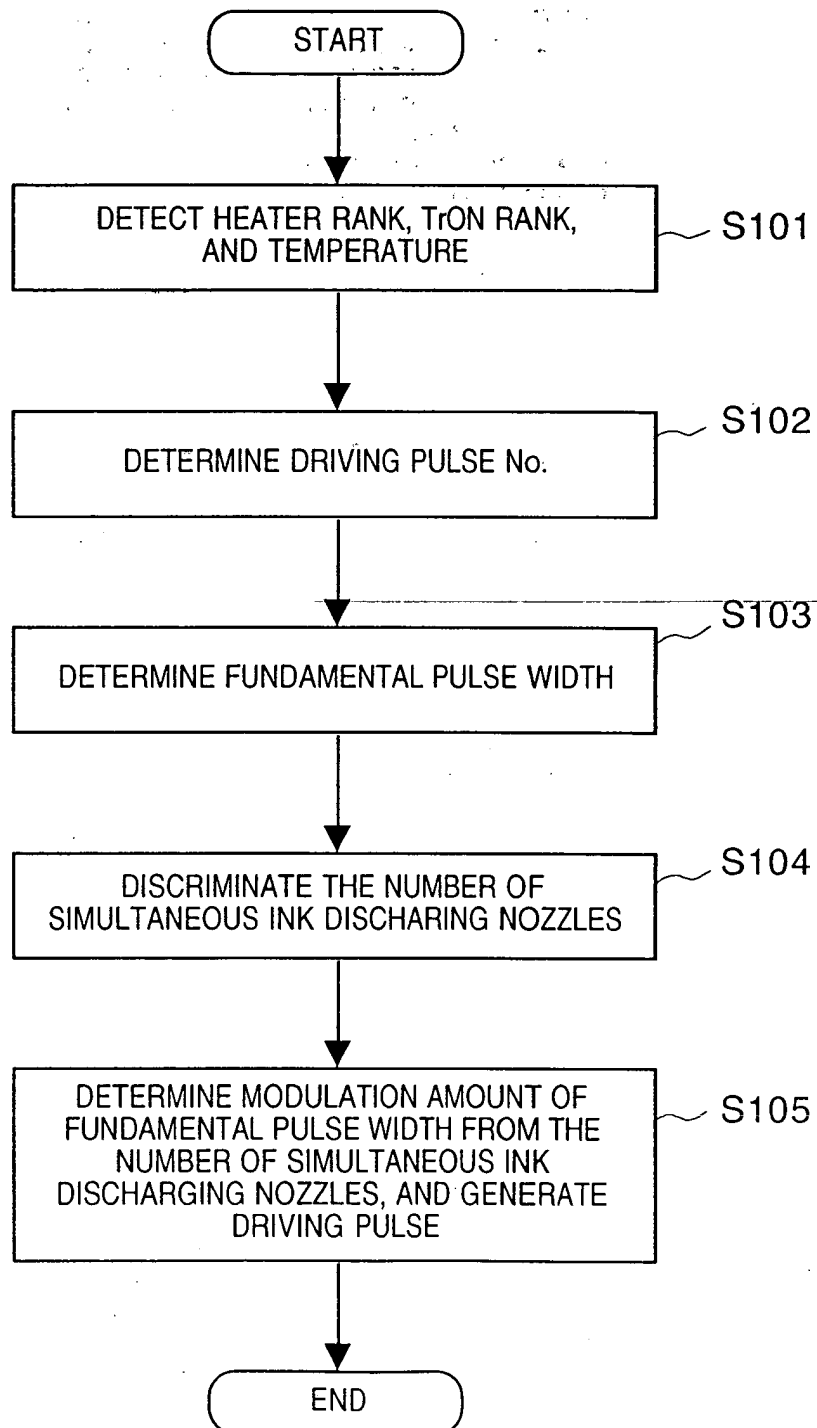


FIG. 30

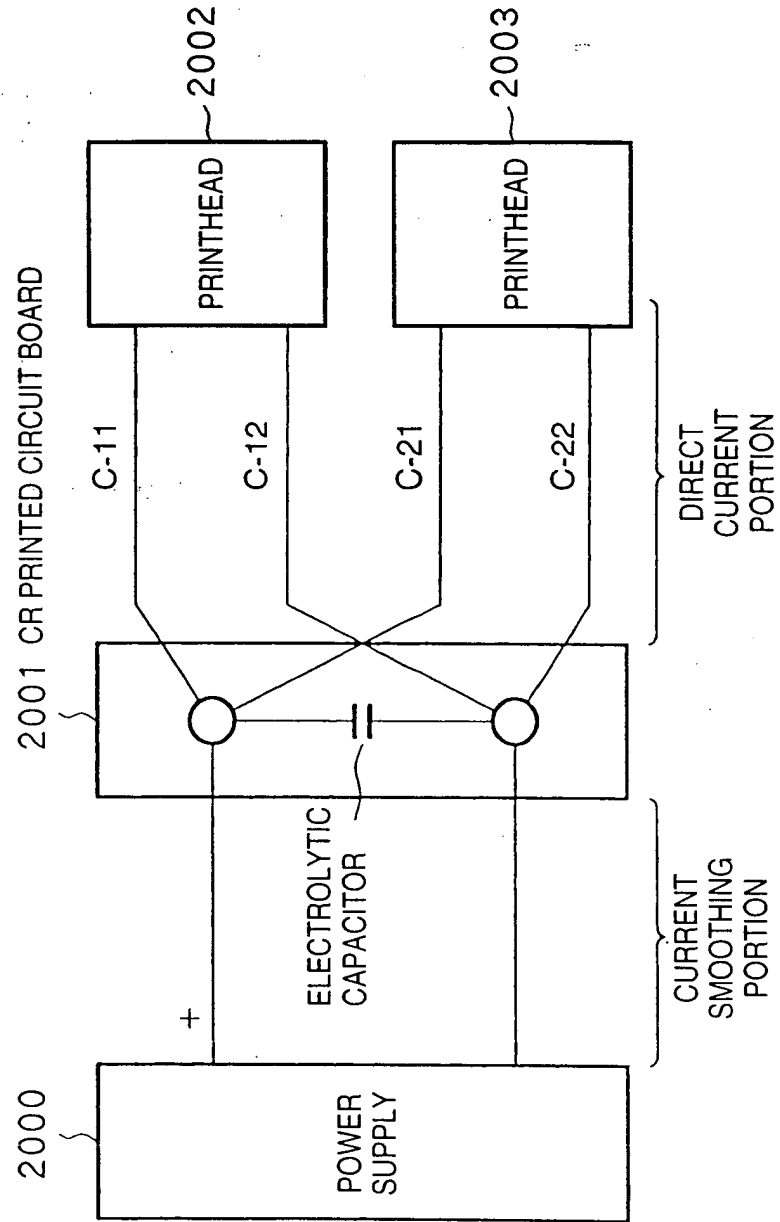


FIG. 31

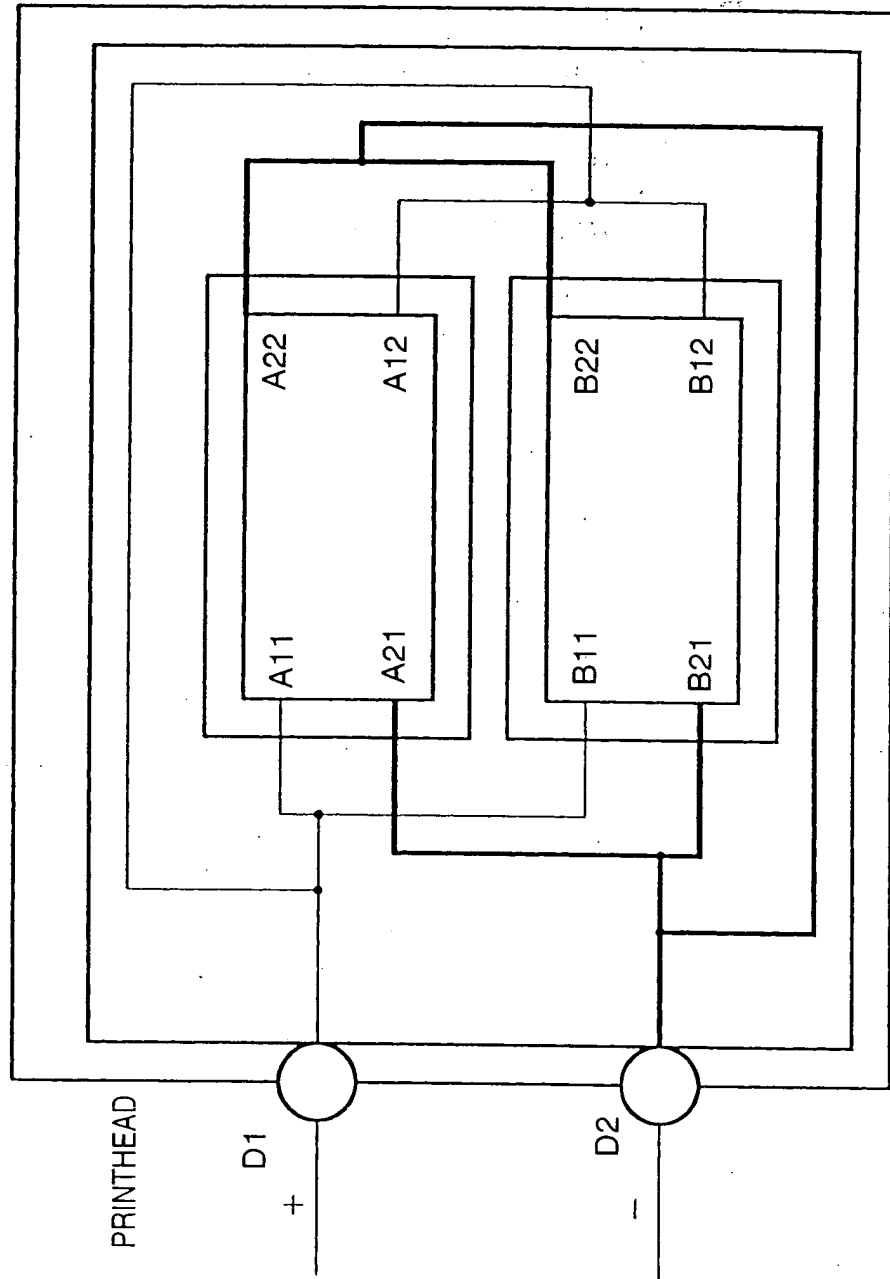


FIG. 32

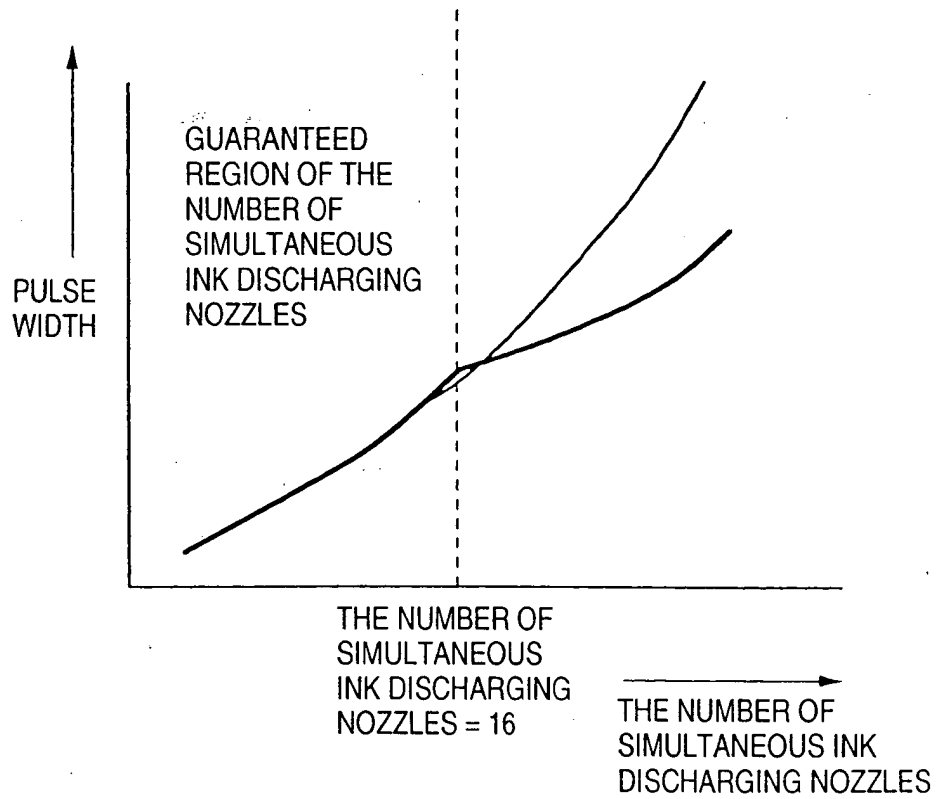


FIG. 33

PULSE TABLE IN WHICH PULSE WIDTH IS NARROWED WHEN THE NUMBER OF SIMULTANEOUS INK DISCHARGING NOZZLES IS 16 OR MORE

DRIVING PULSE No.	THE NUMBER OF SIMULTANEOUS INK DISCHARGING NOZZLES			
	0~7	~15	~23	~32
1	0	0.1	0.1	0.2
2	0	0.1	0.2	0.2
3	0	0.1	0.2	0.3
4	0	0.1	0.2	0.3
5	0	0.1	0.2	0.3
6	0	0.1	0.2	0.3
7	0	0.1	0.2	0.3
8	0	0.2	0.2	0.3
9	0	0.1	0.3	0.3
10	0	0.1	0.3	0.3
11	0	0.2	0.2	0.3
12	0	0.2	0.3	0.4
13	0	0.2	0.3	0.4
14	0	0.2	0.3	0.4
15	0	0.2	0.3	0.5
16	0	0.2	0.3	0.5

FIG. 34

EXAMPLE IN WHICH THE NUMBER OF
SIMULTANEOUS INK DISCHARGING NOZZLES
= 8 IS UNIFORMLY DISTRIBUTED

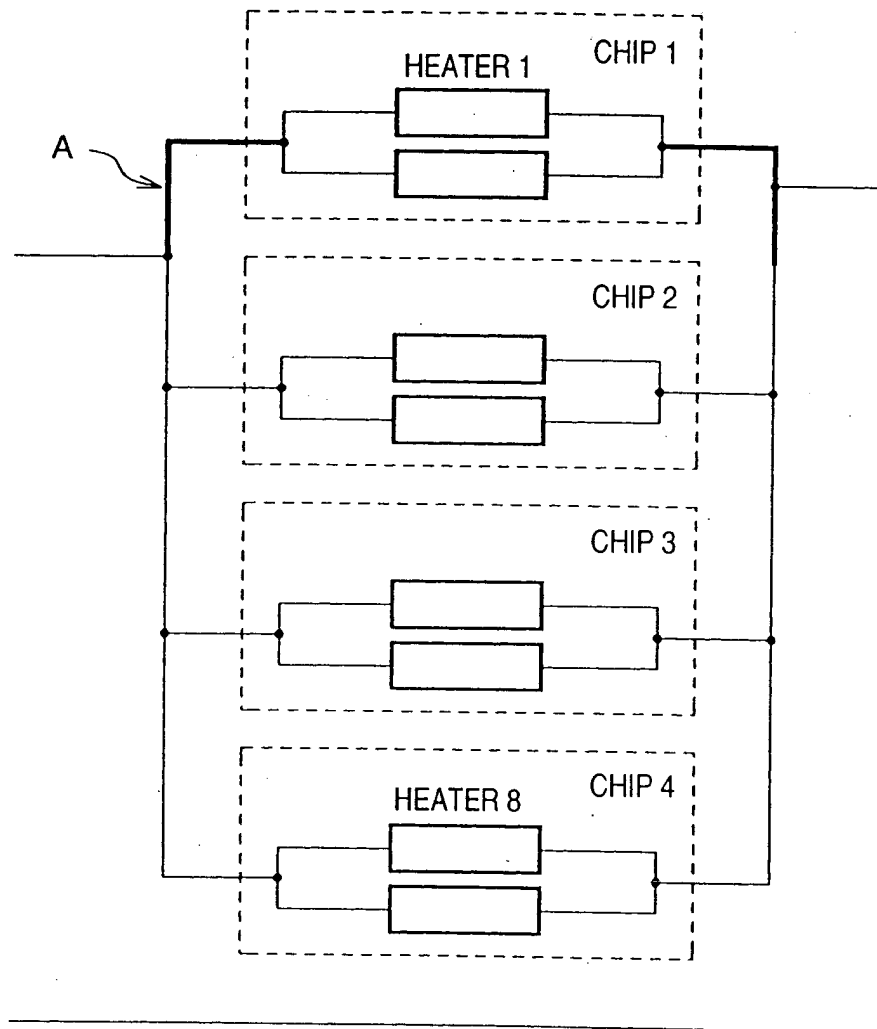
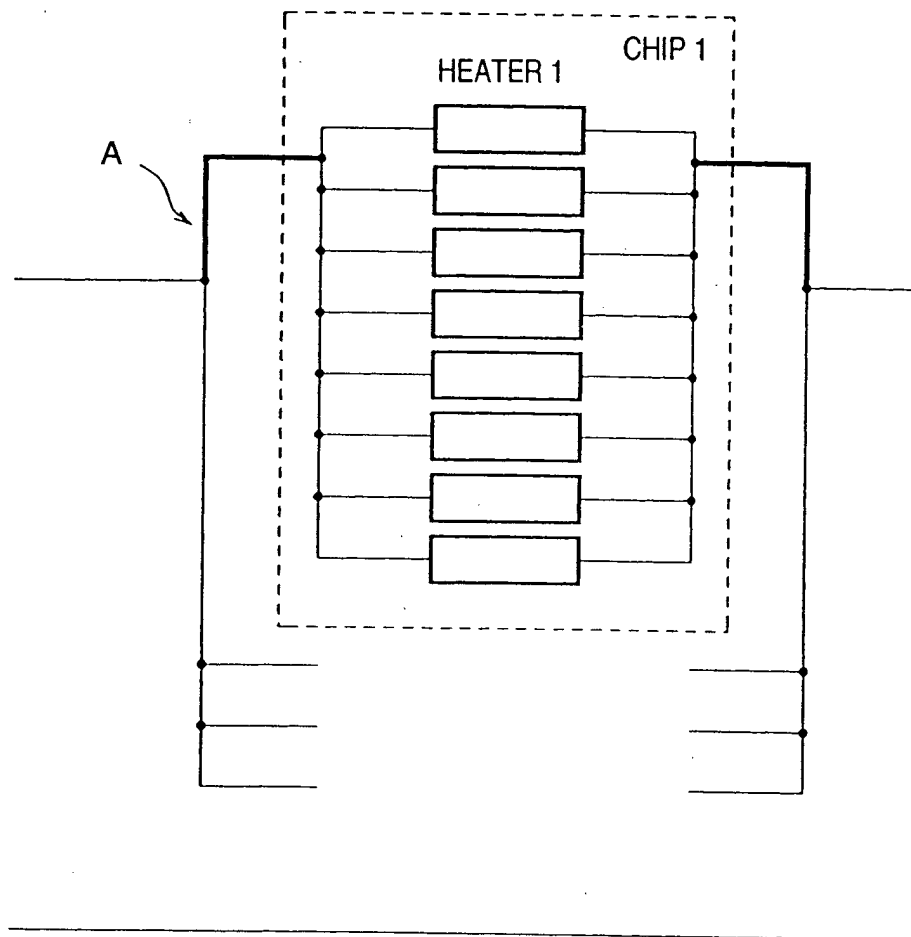


FIG. 35

EXAMPLE IN WHICH THE NUMBER OF
SIMULTANEOUS INK DISCHARGING NOZZLES
= 8 IS CONCENTRATED TO ONE CHIP



↑

PULSE WIDTH

GUARANTEED REGION OF THE NUMBER OF SIMULTANEOUS INK DISCHARGING NOZZLES

THE NUMBER OF SIMULTANEOUS INK DISCHARGING NOZZLES = 8

THE NUMBER OF SIMULTANEOUS INK DISCHARGING NOZZLES = 16

→ THE NUMBER OF SIMULTANEOUS INK DISCHARGING NOZZLES

EXAMPLE IN WHICH PULSE WIDTH IS INCREASED WHEN THE NUMBER OF
SIMULTANEOUS INK DISCHARGING NOZZLES IS 0 TO 7

DRIVING PULSE No.	THE NUMBER OF SIMULTANEOUS INK DISCHARGING NOZZLES			
	0~7	~15	~23	~32
1	0.1	0.1	0.1	0.2
2	0.1	0.1	0.2	0.2
3	0.1	0.1	0.2	0.3
4	0.1	0.1	0.2	0.3
5	0.1	0.1	0.2	0.3
6	0.1	0.1	0.2	0.3
7	0.1	0.1	0.2	0.3
8	0.1	0.2	0.2	0.3
9	0.1	0.1	0.3	0.3
10	0.1	0.1	0.3	0.3
11	0.1	0.2	0.2	0.3
12	0.1	0.2	0.3	0.4
13	0.2	0.2	0.3	0.4
14	0.1	0.2	0.3	0.4
15	0.2	0.2	0.3	0.5
16	0.2	0.2	0.3	0.5

F I G. 38

FOR PRINTING MODE B

FOR PRINTING MODE A

FIG. 39

DRIVING PULSE No. — SIMULTANEOUS INK DISCHARGING PULSE No.

DRIVING PULSE No.	THE NUMBER OF SIMULTANEOUS INK DISCHARGING NOZZLES			
	0~7	~15	~23	~32
1	0	3	6	9
2	0	3	6	9
3	20	3	7	9
4	20	4	7	10
⋮	⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮	⋮

FIG. 40

SIMULTANEOUS INK DISCHARGING PULSE No. — P2 SET VALUE			
SIMULTANEOUS INK DISCHARGING PULSE No.	P2	PULSE MODULATION WIDTH	
0	20	0	
1	21	0.1	
2	22	0.2	
3	23	0.3	
4	24	0.4	
:	:	:	
:	:	:	
:	:	:	
20	20	0	

SIMULTANEOUS INK DISCHARGING PULSE No. — P2 SET VALUE			
SIMULTANEOUS INK DISCHARGING PULSE No.	P2	PULSE MODULATION WIDTH	
0	21	0.1	
1	22	0.2	
2	23	0.3	
3	24	0.4	
4	25	0.5	
:	:	:	
:	:	:	
:	:	:	
20	22	0.2	

FOR PRINTING MODE A

FOR PRINTING MODE B